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CALANDRINIA CILIATA (PORTULACACEAE) NEW TO LOUISIANA

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ABSTRACT

Sampling in agricultural plots set up on the Pest Management Enterprises, LLC Research Farm for the purpose of investigating pest management methods yielded an abundance of *Calandrinia ciliata*, a species new to Louisiana. It is native to the Pacific region of the USA but considered to be non-native in Louisiana. Subsequent to this initial gathering, a second sample from a nearby farm was also brought to the LSU Herbarium for determination, suggesting that the taxon is more generally present in this area of the state. The species is native to North America but not to Louisiana.

KEY WORDS: *Calandrinia ciliata*, Portulacaceae, Louisiana flora, agricultural weeds, North American flora

Calandrinia ciliata (Ruiz & Pav.) DC. ("red maids" or "fringed redmaids") is one of about 14 species in the genus that is most diverse in western South America (Hershkovitz 1993). Two very similar species are native to the USA, *C. ciliata* and *C. breweri* S. Wats. (Kelley 2004). The previously known geographic distribution for *C. ciliata* encompassed British Columbia southward to California, western Mexico, Guatemala, and northwestern South America (Kelley 2004). Bryson and Skojac (2011) reported the taxon from Washington County, Mississippi, and PLANTS database also indicates an occurrence in Massachusetts (USDA, NRCS 2013). The occurrences in the eastern USA seem unusual in that they are far out of range and in a different environmental regime, but the species also has been recorded as a weed in Australia and the British Isles (Randall 2011) and it apparently has broad tolerances.

Habitat preferences for *Calandrinia ciliata* are agricultural fields and other more open habitats with sandy to loamy soils. The soil in the agricultural field in which the plant was first observed near Cheneyville in Rapides Parish, Louisiana, is Norwood Silt Loam. Sugarcane variety L 97-128 was planted in 2008 and first harvested in 2009. Subsequently, the first and second stubble were harvested in 2010 and 2011, respectively. The sugarcane crop was destroyed in spring 2012 and the field left fallowed until fall 2012. In September 2012 sugarcane variety HoCP 96-540 was planted for the ongoing trial. Pre-emergence herbicide was applied at this time and weed emergence was monitored and evaluated. *Calandrinia ciliata* was observed for the first time in October 2012. Most pre-emergence treatments were ineffective against *C. ciliata*. The plant material and harvest equipment were obtained from local sugarcane producers.

A subsequent record of *Calandrinia ciliata*, also in 2013, from near the locality noted above suggests that it may be more widely established in the area. Its origin in this region is not known, but the tendency for this species to grow in agricultural fields and its occurrence in such an intensely farmed region as Washington County, Mississippi, indicate that its spread is correlated with

Figures 1–7. *Calandrinia ciliata* **in Louisiana. 1. Developing seedling of** *C. ciliata*. **2. Several plants of** *C. ciliata*. **approaching flowering age. 3. Field rows supporting a luxuriant stand of** *C. ciliata*. **4. Plants in flower. 5. Flower details. 6. Flower of** *C. ciliata* **emphasizing the keeled sepals and elongated hairs on leaf margins. 7. Seeds of** *C. ciliata* **showing the finely reticulated surface. The size marker equals 0.5 mm.**

agricultural activities. The species is an annual, producing seeds in abundance that could readily be transported by the movement of soil, with fruiting plant fragments, and as a contaminant in crop seeds sources.

Vouchers. **LOUISIANA. Rapides Parish**: Near Cheneyville, about 1300 ft S of the intersection of Klock St. and Bayou Road, growing on the Pest Management Enterprises, LLC Research Farm, plants abundant in localized area in an agricultural field near Bayou Boeuf, N 31.010265, W 92.282515, ca 20 m elevation, 22 Feb 2013, *A. Mészáros and J.K. Saichuk s.n.* (LSU 132303); ca 1 mi N of Cheneyville near Cheneyville Echo Road ne of its jct with Bayou Road, near N 31.029432, W 92.288667, ca 19 m elevation, 15 Mar 2013, *D. Stephenson s.n.* (LSU 132366).

Determination was rendered for this taxon using the Portulacaceae treatment by Kelley (2004) with which the unknown compared favorably. *Calandrinia ciliata* has prostrate to ascending stems up to 40 cm long and alternate leaves with slender linear to oblanceolate blades. Elongated, unicellular trichomes are generally evident on the leaf and sepal margins. In flower the species is readily distinguished by its deep pink, white-centered, 5-petaled flowers about 15 mm in diameter with three stigmas. Keeled sepals and capsules shorter than the sepals that dehisce longitudinally from the apex are diagnostic. Its seeds are biconvex with a finely reticulate surface. Features of its development from seedling to seed production are shown in Figures 1–7.

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